

# PORT OF CLARENCE - A Working River Port for Over 150 Years

## Dirrangun's story

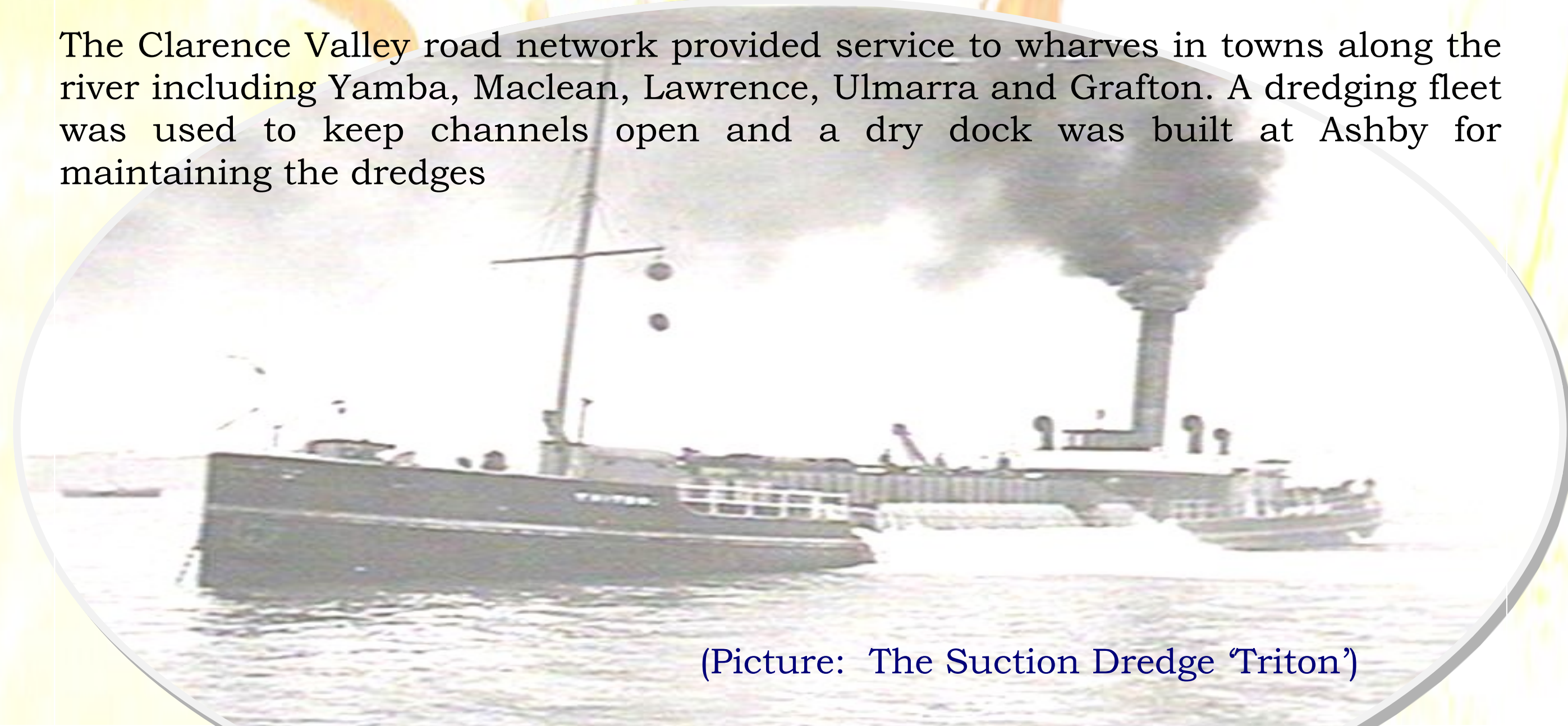
The rocky reef near the river entrance known as *Dirrangun* has significant Aboriginal heritage value and has survived many Acts of Parliament authorising its removal:

*The white people asked my father if it would be right if they blew that stone up. My father said: 'No. If they did, all the sea would rush in. She's supposed to block it.'*  
That's the true thing that the old people told us.  
( **Bella Laurie, Yeagirr Clan** )

## 150 Year History of Maritime Engineering

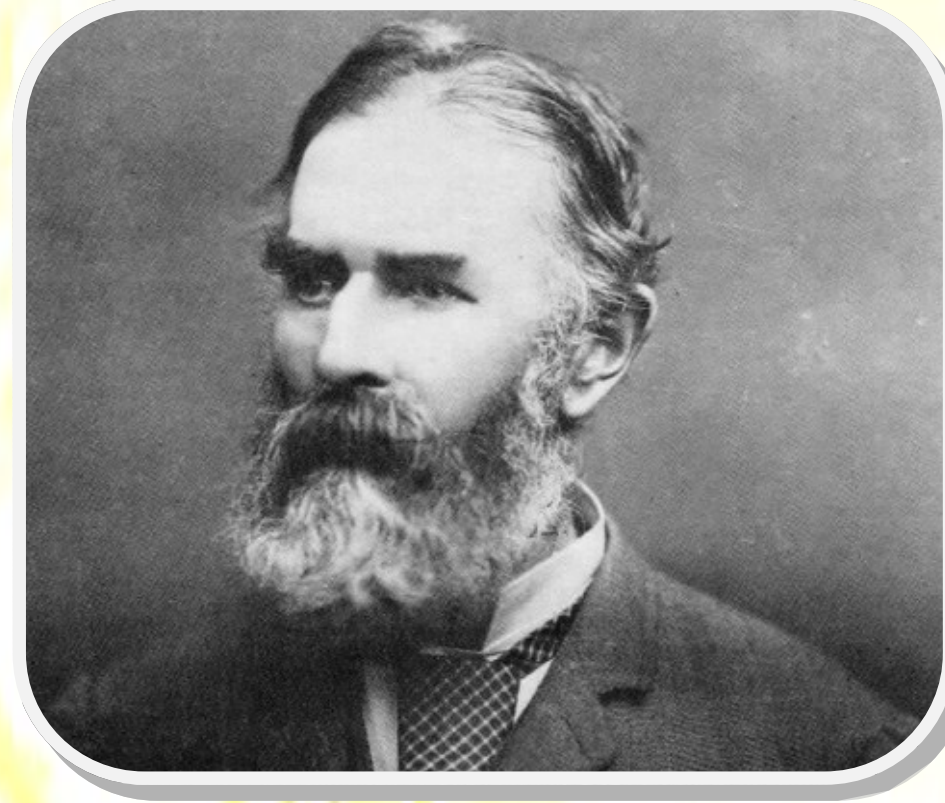
In the early days of developing the coast and tablelands of Northern NSW, people and goods were shipped between the Clarence Valley and Sydney. This trade was made safe and reliable by engineering works to the Port of Clarence which commenced in 1862.

The Clarence Valley road network provided service to wharves in towns along the river including Yamba, Maclean, Lawrence, Ulmarra and Grafton. A dredging fleet was used to keep channels open and a dry dock was built at Ashby for maintaining the dredges

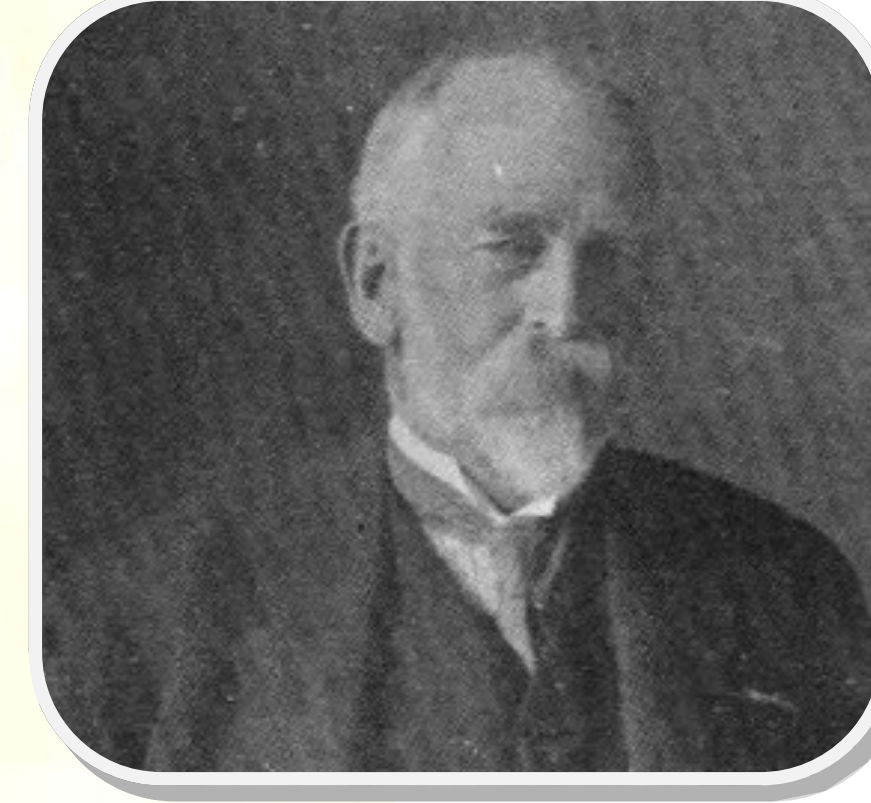


(Picture: The Suction Dredge 'Triton')

The shipping trade prospered until the Grafton to Sydney railway was completed in 1923. Regular shipping to Sydney finished in 1954, but the Port (now known as the Port of Yamba) is the only remaining regional river port in NSW still used by ocean going vessels.



**Edward Orpen MORIARTY (1825 - 96)**  
initiated the first works in 1862 by constructing short breakwaters and rock training walls at the river entrance. Part of the north training wall is now called "Moriarty's Wall".



**Walter SHELLSHEAR (1856 - 1939)**  
proposed ideas differing significantly from Moriarty's in an 1884 paper called: "On the Removal of Bars from the Entrances to our Rivers". This research influenced later designs.



**Sir John COODE (1816 - 1892)**, a visiting British harbour engineer, recommended building two moles or piers to act as breakwaters, with training banks and removal of a rocky reef across the Clarence entrance. Only partially implemented, these works have since provided a relatively stable entrance bar for Port operations.

## Engineering Design Evolution

The Port of Clarence was effectively a "prototype" for NSW river entrance works. Early engineers learned by trial and error in their attempts to maintain navigable channels through river entrances. Later engineers had access to physical and computer models to optimise designs.

The Port of Clarence entrance works were constructed in 4 stages:

- 1: Moriarty's Scheme (1862-1889)
- 2: Sir John Coode's Scheme (1893-1903)
- 3: 1914-1917 works, and
- 4: Clarence Harbour Works Act (1950-1971).

Historian Dr Jim Gallagher wrote that NSW river entrances:

*'...were a perplexing problem for the engineers who were expected to keep them navigable without funding equal to the task. It is a tribute to those professional men that they accomplished what they did and that, when constructing similar modern works built with the aid of sophisticated devices for identifying the forces at work in the vicinity of the entrances.'*

Engineers today follow basically the same lines as their nineteenth century counterparts.

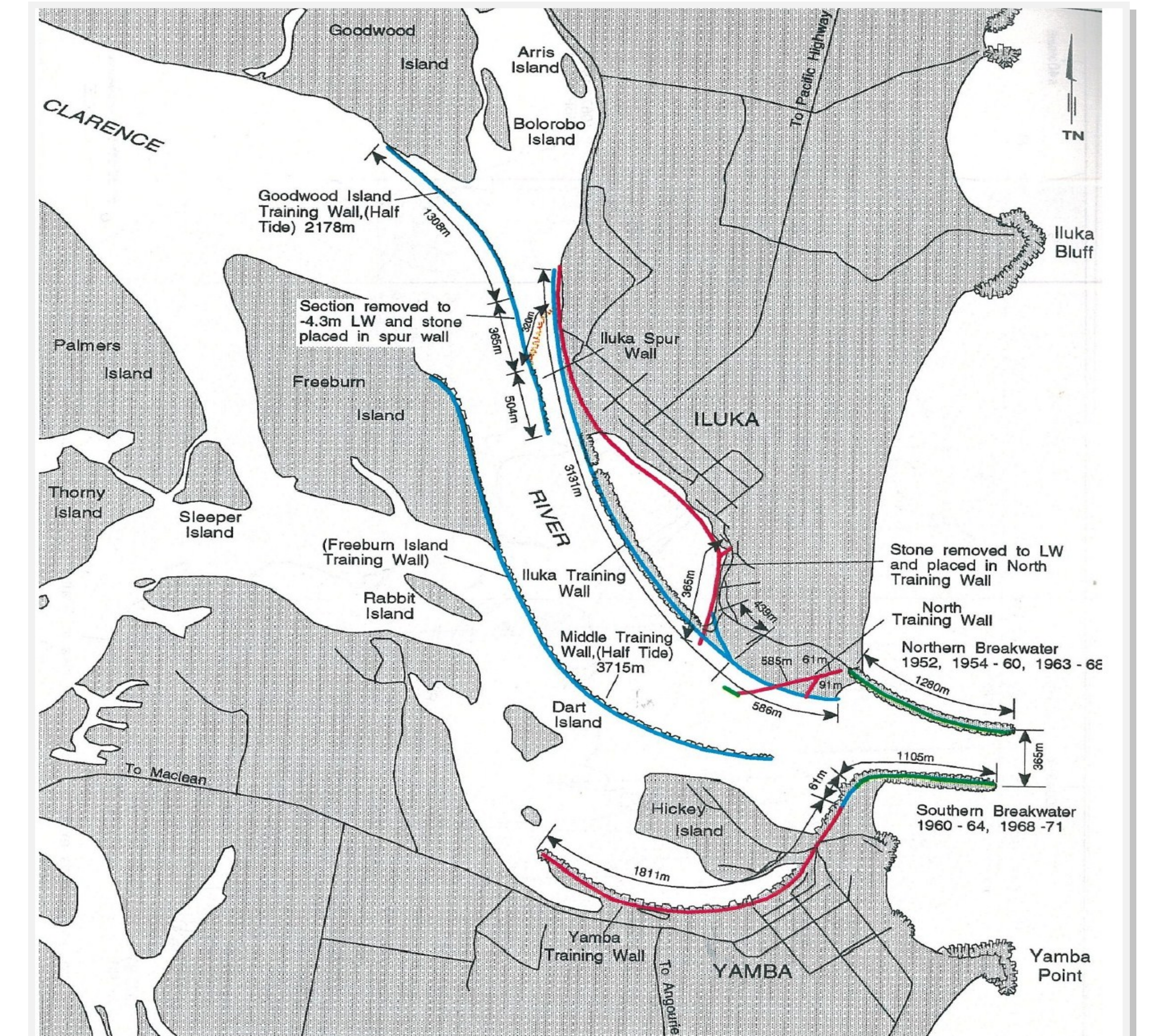


This Engineering Heritage Marker was placed on 1 December 2012 during the Year of the Regional Engineering Team in recognition of the 150th anniversary of the Port of Clarence.

For more information about this, and other Engineering Heritage Australia works, go to:  
[www.engineeringheritage.com.au](http://www.engineeringheritage.com.au)



ENGINEERS AUSTRALIA



Map showing the key components of the entrance works (PWD, 1995)

## Desires for a 'Deep Sea' Port

There have been many proposals to develop the Clarence as a major export port. In 1926 the Federal Government commissioned a report by English engineer Sir George Buchanan which suggested that "the Clarence River should rank next in importance to Melbourne in plans for future Australian port development".

In 1943 the then United Kingdom Deputy Prime Minister, Clement Attlee, gave a speech in London on post-war Empire development which proposed that; "...a deep sea port on the Clarence River (New South Wales) was planned as part of harbour and river works."

While the Clarence Harbour Works Act partly implemented that proposal, the export of grain from the Port of Newcastle in the 1960s effectively ended such plans for the Clarence. However, even in 2012, calls continue for development of the Clarence as a "deep sea" port.